Codes in LRTJ-Spaces

by

Prof. (Dr.) Sapna JAIN

M.Sc.(Mathematics)/M.Phil(Mathematics)/
Ph.D.(Mathematics)/D.Sc.(Mathematics)

Shanxi Normal University
P.R. China

&

Executive Editor:
Journal of Analysis and Applications
(SCOPUS INDEXED)
Journal of Algebra and Applied Mathematics
(SCOPUS INDEXED)
www.sasip.net
What’s App: +919811085318
Email: sasip@greenmail.net
sapnajain@gmx.com
Abstract

In [2], Jain introduced a new metric viz. LRTJ-metric on the space Mat\(m \times s(Z_q)\), the module space of all \(m \times s\) matrices with entries from the finite ring \(Z_q(q \geq 2)\) generalizing the classical one dimensional Lee metric [7] and the two-dimensional RT-metric [8] which further appeared in [1]. In this talk, we discuss linear codes in LRTJ spaces [2] and obtain various bounds on the parameters of array codes in LRTJ-spaces for the correction of random array errors and usual and CT-burst array errors [2, 3, 4, 6].

We also introduce the complete weight enumerator for codes in LRTJ-spaces and obtain a MacWilliams type identity [5] for the complete weight enumerator of the dual code of an array code in LRTJ-spaces.